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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/601,604	06/23/2003	Ross K. Hill	CANATXX6:CIP	8916
21897	7590	01/15/2009		
THE MATTHEWS FIRM 2000 BERING DRIVE SUITE 700 HOUSTON, TX 77057			EXAMINER BORISSOV, IGOR N	
			ART UNIT 3628	PAPER NUMBER
			MAIL DATE 01/15/2009	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/601,604	Applicant(s) HILL ET AL.	
	Examiner Igor N. Borissov	Art Unit 3628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/05/2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 14 and 42 is/are pending in the application.
- 4a) Of the above claim(s) 1-6 and 42 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/05/2008 has been entered.

Response to Amendment

Amendment received on 12/05/2008 is acknowledged and entered. Claims 7-13, 15-41 have been previously canceled. Claims 1, 2 and 14 have been amended. Claims 1-6, 14 and 42 are currently pending in the application.

Examiner brings applicant's attention that amended claims 1, 2 and 14, and claim 42, appears to be an exact copy of the amended claims introduced in the Amendment of 02/21/2008, and contain same status identifier and text markings. Claim 42, which is identified as "New", was introduced in amendment of 02/21/2008, and is not "New" any more. In accordance with Revised Amendment Practice 37 CFR § 1.121 there are seven permissible status identifiers:

1. (Original)
2. (Currently amended)
3. (Canceled)
4. (Withdrawn)
5. (Previously presented)
6. (New)
7. (Not entered)

Furthermore, the unchanged claim 42 has incorrect underlining.

37 CFR § 1.121(c) states:

- (2) *When claim text with markings is required.* All claims being currently amended in an amendment paper shall be presented in the claim listing, indicate a status of “currently amended,” and be submitted with markings to indicate the changes that have been made relative to the immediate prior version of the claims. The text of any added subject matter must be shown by underlining the added text. The text of any deleted matter must be shown by strike-through except that double brackets placed before and after the deleted characters may be used to show deletion of five or fewer consecutive characters. The text of any deleted subject matter must be shown by being placed within double brackets if strike-through cannot be easily perceived. Only claims having the status of “currently amended,” or “withdrawn” if also being amended, shall include markings. If a withdrawn claim is currently amended, its status in the claim listing may be identified as “withdrawn—currently amended.”
- (3) *When claim text in clean version is required.* The text of all pending claims not being currently amended shall be presented in the claim listing in clean version, *i.e.*, without any markings in the presentation of text. The presentation of a clean version of any claim having the status of “original,” “withdrawn” or “previously presented” will constitute an assertion that it has not been changed relative to the immediate prior version, except to omit markings that may have been present in the immediate prior version of the claims of the status of “withdrawn” or “previously presented.” Any claim added by amendment must be indicated with the status of “new” and presented in clean version, *i.e.*, without any underlining.

To avoid a notice of non-responsive amendment, Applicant is advised to use a proper status identifier and present claims in a proper format.

Examiner's statement

Amended independent Claim 1 is directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

- A. Claims 1-6 and 42 drawn to a method for injecting gas in an underground formation, classified in class 405, subclass 53.
- B. Claim 14 drawn to an apparatus for trading in gas, classified in class 705, subclass 37.

Inventions A and B are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention A has utility separate from that of inventions B such as using an underground earth formation for gas storage. See MPEP § 806.05(d).

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, or patentability requirements, restriction for examination purposes as indicated is proper.

Since applicant has received an action on the merits for the originally presented invention (trading in gas), this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 1-6 and 42 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kennelley et al. (US 6,298,671 B1) in view of in view of Bishop (US 5,129,759) and further in view of Garnier (US 1,679,417).

Claim 14. Kennelley et al. teaches a system for storing natural gas in subterranean formation and delivering the gas to a marketplace, comprising:

at least one low pressure underground salt formation storage facility operating in the pressure range of 200-2500 psi (C. 4, L. 11-17; C. 5, L. 6);

a natural gas pipeline connected with the at least one storage facility having natural gas therein (Fig. 1; C. 4, L. 18-25)

a trading system operable for making trades related to gas (suggests short trading) (C. 4, L. 55-56);

wherein the use of a computer is old and well known in the art for the benefit of saving time and avoiding possible human mistakes.

While Kennelley et al. teaches storing gas in the subterranean formation, Kennelley et al. does not specifically teach that said subterranean formation includes a salt formation. Also, Kennelley does not teach that the natural gas is caused to be injected into, and drawn from said storage facility through the same pipe.

Bishop teaches a method and system for storing natural gas in subterranean formation, wherein said formation is a salt formation (Abstract).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kennelley et al. to include that said subterranean formation includes a salt formation, as disclosed in Bishop, because it would advantageously allow to utilize subterranean formation of various types, thereby enhance the versatility of the system.

Garnier teaches a gas pumping apparatus, wherein the gas is injected into, and drawn from an underground storage facility through the same pipe (Fig 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kennelley et al. and Bishop to include that said natural gas is caused to be injected into, and drawn from said storage facility through the same pipe, as disclosed in Garnier, because it would advantageously allow to save funds. Furthermore, in

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this case, each of the elements of the cited references combined by the Examiner performs the same function when combined as it does in the prior art. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include that said subterranean formation includes a salt formation, as disclosed in Bishop in the system of Kennelley et al., and to include that said natural gas is caused to be injected into, and drawn from said storage facility through the same pipe, as disclosed in Garnier, since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable. Thus, such a combination would have yielded predictable results. See *Sakraida*, 425 U.S. at 282, 189 USPQ at 453. Therefore, Supreme Court Decision in *KSR International Co. v. Teleflex Inc.* (KSR, 82 USPQ2d at 1396) forecloses the argument that a specific teaching, suggestion, or motivation is required to support a finding of obviousness. See the recent Board decision *Ex arte Smith*, --USPQ2d--, slip op. at 20, (Bd. Pat. App. & Interf. June 25, 2007). Also, the combination does not specifically teach a computer system operable for controlling gas flow into and out of said storage facility. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combination to include the use of a computer, since it has been held that broadly providing a mechanical or automatic means to replace manual activity which has accomplished the same result involves only routine skill in the art. *In re Venner*, 120 USPQ 192.

Response to Arguments

Applicant's arguments filed 02/21/2008 have been fully considered but they are not persuasive.

In response to applicant's argument that neither Kennelley et al. nor Bishop, alone or in combination, teach or suggest a single pipeline for both introducing gas into a shallow depth underground salt formation storage facilities and removing gas from a shallow depth underground salt formation storage facilities, it is noted that Garner was applied for this

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feature. Specifically, Garner discloses an arrangement for storing natural gas in underground formation wherein a single pipe is utilized for injecting the gas into and drawing the gas from said cavern (See the discussion above).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, all references disclose storing fluid in underground formations. The motivation to combine the references would be allowing to utilize subterranean formation of various types, thereby enhance the versatility of the system, and saving funds by utilizing the same pipe. Furthermore, in this case, each of the elements of the cited references combined by the Examiner performs the same function when combined as it does in the prior art. Thus, such a combination would have yielded predictable results. See *Sakraida*, 425 U.S. at 282, 189 USPQ at 453. Therefore, Supreme Court Decision in *KSR International Co. v. Teleflex Inc.* (KSR, 82 USPQ2d at 1396) forecloses the argument that a specific teaching, suggestion, or motivation is required to support a finding of obviousness. See the recent Board decision *Ex arte Smith*, --USPQ2d--, slip op. at 20, (Bd. Pat. App. & Interf. June 25, 2007).

In response to applicant's argument that the prior art of record fails to disclose a computer system for controlling the gas flow, it is noted that it would be obvious to modify the combination to introduce the computer for controlling operation of the facility since it has been held that broadly providing a mechanical or automatic means to replace manual activity which has accomplished the same result involves only routine skill in the art. *In re Venner*, 120 USPQ 192.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Igor Borissov whose telephone number is 571-272-6801. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John W. Hayes can be reached on 571-272-6708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Igor N. Borissov/

Primary Examiner, Art Unit 3628

01/13/2009